UNIVERSITY OF CALGARY

FACULTY OF SCIENCE

Mathematics and Statistics - MS 476
Ph: (403) 220-5203

COURSE INFORMATION SHEET

WINTER 2007

1. Course:	**MATHEMATICS 331** – Multivariate Calculus		
Lecture/Time/Session	L02 M W F	13:00-14:00	ST 147
Instructor/Office/e-mail:	Gilad Gour	MS 436	gour@math.ucalgary.ca
Tutorial			
M 10:00 TRB 101	Cody Holder		clholder@math.ucalgary.ca
M 10:00 MS 371	Gilad Gour		
T 13:00 MS 427	Gilad Gour		
Course's Homepage:	http://www.math.ucalgary.ca/~gour/math331/w07.html		

2. Prerequisites: MATH 253 or 263 or AMAT 219 and either MATH 221 or both 211 and 013

NOTE: The Faculty of Science policy on pre- and co-requisite checking is outlined in the current University Calendar (see www.ucalgary.ca/pubs/calendar) *Faculty of Science, section 5C*. **It is the students' responsibility to ensure that they have the pre- and co-requisites for the course, and if they do not they will be withdrawn from the course without notice.**

3. Fee policy: After the last day to drop/add courses, there will be no refund of tuition fees if a student withdraws from a course, courses or the session.

4. Academic Accommodations: It is the student's responsibility to request academic accommodations. A student with a documented disability who may require academic accommodation must register with the Disability Resource Centre to be eligible for formal academic accommodation. DRC registered students are required to discuss their needs with the instructor no later than fourteen (14) days after the start of this course.

5. The University policy on grading and related matters is described in the current University Calendar, *Academic Standings*. In determining the overall grade in the course, the following weights will be used:

Quizzes	[best 4 of 5]	30%
Midterm Test	[one]	20%
Final Exam		50%

A passing grade on any particular component of the course is essential to passing the course as a whole. There will be a final examination scheduled by the Registrar's Office. The use of aids such as open book, etc. is not permitted. Calculators are allowed on quizzes, the midterm test and the final exam.

6. Missed Components of Term Work. The regulations of the Faculty of Science pertaining to this matter are outlined in the current University Calendar, *Faculty of Science, section 6A*. It is the student's responsibility to familiarize herself/himself with these regulations.

7. Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the current University Calendar. See: http://www.ucalgary.ca/honesty/

8. Dates and times of class exercises held outside of class hours (evening tests, Saturday laboratory examinations, weekend field trips, etc.):
REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME ACTIVITY.

THERE WILL BE NO OUT OF CLASS ACTIVITY SCHEDULED FOR THIS COURSE.

9. Textbook: R. Adams: Multivariable Calculus or Complete Course (recommended).

10. The mid-term will be in class on **March 9, 2007**. There will be five quizzes of approximately 35 minutes durations which will be held in labs: **January 22 or 23, February 5 or 6, February 26 or 27, March 19 or 20, April 2 or 3**. The best four marks will be used in the assessment.

Calendar Description: H(3-1T)

Systems of ordinary differential equations. Calculus of functions of several variables. Introduction to vector analysis, theorems of Green, Gauss and Stokes.

Syllabus

Topics	**Sections and problems**	**Dates**
Systems of linear differential equations		8.01-17.01
Functions of several variables	12.1 (1-27,37,39,42)	19.01
Limits and continuity	12.2 (1-15)	22.01-24.01
Partial derivatives	12.3 (1-27), 12.4 (1-5,9,17)	24.01-26.02
The Chain Rule	12.5 (1-11, 15-19)	29.01
Differentiability, linear approximations	12.6 (1-5)	29.01-2.02
Gradient, directional derivatives	12.7 (1-19)	5.02-7.02
Implicit functions	12.8 (1-15, 23)	7.02-9.02
Extreme values	13.1 (1-15), 13.2 (1-9)	12.02-16.02
Double integrals	14.1 (13-19), 14.2 (1-19)	26.02-28.02
Change of variables	14.4 (1-23)	2.03-5.03
Triple integrals	14.5 (1-5), 14.6 (25-29)	7.03-12.03
Conservative vector fields	15.2 (1-5)	14.03
Line integrals	15.3 (1-7), 15.4 (1-9)	16.03-19.03
Surface integrals	15.5 (3-7,13,15), 15.6 (1,5)	21.03-23.03
Curl and divergence	16.1 (1-7)	26.03
Green's Theorem	16.3 (1-5)	28.03-30.3
The Divergence Theorem	16.4 (1-7)	2.04-4.04
Stokes's Theorem	16.5 (1-5)	9.04-11.04

There are no lectures on **Febuary 18-25** and no tutorials on **January 8-9**.